

COMPOSITE MICROELECTRONIC SPRING STRUCTURE AND METHOD FOR MAKING SAME

ABSTRACT OF THE DISCLOSURE

An improved microelectronic spring structure, and method of making the same, are disclosed. The improvement comprises, in a spring contact of the type comprising a beam attached to a post, of replacing the post with a plurality of column elements. The beam component is thus provided with one or more column elements which both structurally support and electrically connect one end of the beam to an electronic component. The column elements are preferably comprised of relatively straight segments of wire elements that are ball-bonded to a substrate and are over-coated with suitable structural and/or conducting materials. In the alternative, the improvement comprises a single column element comprised of a relatively straight segment of wire that is ball-bonded to a substrate and over-coated with suitable structural and conducting materials, wherein the column element is essentially rigid. The improved spring structures are especially useful for use as spring contacts on substrates such as probe cards, interposers, semiconductor devices, and other electronic components.